Amendments to the Claims

1. (CURRENTLY AMENDED)   A method of multipath mitigation when transmitting a signal from a transmitter (10) to a receiver (20), the method including:

providing a plurality of predetermined multipath correlation shapes (32) corresponding to the correlation of transmitted and received signals transmitted from transmitter to receiver in predetermined multipath environments and respective correction shapes (34) being correlation shapes in the multipath environments with the direct line of sight component of the signal transmitted from transmitter to receiver removed;

receiving a signal (2) from a transmitter (10) transmitting a signal of known form;

calculating a correlation shape between the received signal and the known form of the transmitted signal;

determining the best match of predetermined correlation shape to the calculated correlation shape by comparing the calculated correlation shape with a plurality of predetermined multipath correlation shapes corresponding to respective multipath environments; and

subtracting the respective correction shape corresponding to the determined best match correlation shape from the calculated received correlation shape to obtain a corrected correlation shape corrected for multipath effects.

2. (ORIGINAL)   A method according to claim 1 wherein the step of determining the best match of predetermined correlation shape to the calculated correlation shape includes comparing the calculated correlation shape to the predetermined correlation shapes scaled by one or more scaling parameters and determining the correlation shape and the scaling parameters that give the best match, and the step of subtracting the correlation shape subtracts the correction shape corresponding to the best match scaled by the best match scaling parameters.

3. (CURRENTLY AMENDED)   A method according to claim 1 or 2 further comprising the step of determining the time delay of the signal transmitted from transmitter to receiver using the corrected correlation shape.

4. (CURRENTLY AMENDED)   A method of generating the predetermined multipath correlation shapes for use in the multipath mitigation method of ~~any of claims 1 to 3~~claim 1, the method of generating the predetermined multipath correlation shapes including:

measuring and recording a set of experimental correlation data as a function of time using a variety of transmission and reception locations in a number of environments;

repeating the measurement and recording of experimental data of the sets of experimental correlation data whilst physically blocking the direct line of sight signal;

classifying the recorded experimental correlation data using automatic pattern matching techniques into a plurality of groups;

storing one set of correlation data representative of each group;

and storing a respective correction correlation shape corresponding to the representative set of correlation data, the correction correlation shape being the correlation shape of the repeated measurement without the direct LOS component corresponding to each representative data set.

5. (CURRENTLY AMENDED)   A reception station ~~(20)~~ comprising

a receiver ~~(22)~~ arranged to receive a signal of known form transmitted from a transmission station; and

a memory ~~(18)~~ storing a plurality of predetermined multipath correlation shapes corresponding to the correlation of transmitted and received signals transmitted from transmitter to receiver in predetermined multipath environments and respective correction shapes being correlation shapes in the multipath environments with the direct line of sight component of the signal transmitted from transmitter to receiver removed;

wherein the reception station is arranged:

to calculate a correlation shape between the received signal and the known form of the transmitted signal;

to determine the best match of predetermined correlation shape to the calculated correlation shape by comparing the calculated correlation shape with the plurality of predetermined multipath correlation shapes corresponding to respective multipath environments; and

to subtract the respective correction shape corresponding to the determined best match correlation shape from the calculated received correlation shape to obtain a corrected correlation shape.

6. (ORIGINAL)   A reception station according to claim 5 arranged to determine the best match of predetermined correlation shape to the calculated correlation shape by comparing the calculated correlation shape to the predetermined correlation shapes scaled by one or more scaling parameters and determining the correlation shape and the scaling parameters that give the best match, and further arranged to subtract the correction shape scaled by the best match scaling parameters.

7. (CURRENTLY AMENDED)   A reception station according to claim 5 ~~of 6~~ further arranged to determine the time delay of the signal transmitted from transmitter to receiver using the corrected correlation shape.

8. (CURRENTLY AMENDED)   A system for multipath mitigation, comprising:

a reception station ~~(20)~~ according to ~~any of claims 5 to 7~~claim 5, and

a transmission station ~~(10)~~ arranged to transmit the signal of known form.